

IN THE SPECIFICATION:

Page 1, lines 3 to 9, replace the paragraphs with the following amended paragraphs.

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates to a ~~novel~~braking assembly, a ~~novel~~ security system associated thereto and a ~~novel~~method of theft prevention, e.g. of wheeled-carriages vehicles such as shopping carriages or carts.

~~The novel braking assembly of the present invention may be suitably used in a variety of vehicles. However, it is especially suited for use on or in conjunction with a shopping trolley or cart.~~

THE PRIOR ART

Page 1, lines 16 to 21, replace the paragraph with the following amended paragraph.

Other braking mechanisms are known~~[[7]]~~ which operate, for example, by radio signal, infra red signal, etc. However, such braking devices generally require a motor to operate the braking mechanism. One particular disadvantage of electronic braking devices is that they require a power source, for example, a battery, to operate the receiver and/or

other electronic parts. For the systems to function properly, the battery must be constantly checked or monitored and replaced or recharged.

Page 1, line 28 to page 2, line 13, replace the paragraphs with the following amended paragraphs.

SUMMARY OF THE INVENTION

In particular, the braking assembly of the present invention is advantageous in that, *inter alia*, a generator may be provided to power electronic components and/or to recharge a solid state battery.

Furthermore, the generator may be operably linked to one or more wheels of the vehicle and thus the user of the cart or ~~trolley~~ carriage will provide the motion for the generator.

The braking assembly of the present invention is advantageous in that it may be used in a manner analogous to existing assemblies, that is, to prevent a cart or ~~trolley~~ carriage from being moved from, for example, a retailer's ~~car park~~ parking lot. However, in addition, the assembly of the invention may prevent a cart or ~~trolley~~ carriage from being removed from the store, hence preventing unpaid for goods from being removed from the store.

The braking assembly of the present invention may also be used on a variety of wheels, including conventionally known ~~trolley~~ carriage or cart wheels, but also including wheels used on, for example, moving

walkways. By the term wheel it is intended to include wheels as hereinbefore described castors, etc.

Page 6, lines 27 to 29, replace the paragraph with the following amended paragraph.

The invention will now be described by way of example only and with reference to the accompanying drawings, ~~in which~~

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a side view of the wheel of the invention with braking member in first, inoperable position;

Page 7, lines 8 and 9, replace the drawing description with the following amended drawing description.

Figure 10 is a sectional view of the wheel showing a standard rubber tyre tire or a travelator (walkway) wheel; and

Page 7, lines 12 to page 9, line 11, replace the paragraphs with the following amended paragraphs.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

In the illustrated embodiment there is provided a castor 1 having connection means to the vehicle through forks and a bolt arrangement that allows rotation between the wheel and the vehicle. From the side

view in drawing Fig. 1 there is also seen a wheel 3 which rotates about the axle 4 and brake member 5 which is shown here in its first or non braking position and in Fig. 2 in its second or braking position. In Fig. 3 (viewing the device from the front) there is provided two wheels 3a and 3b within the castor and a body 6 that will remain fixed in relation to the castor. In such cases where there is a fixed central body it is possible to have the fixing means to the vehicle from the fixed body but for strength reasons this is unlikely to be the preferred option. The fixed body allows for the inclusion of the electronic components of the device including the a light receiver 7 (see Fig. 4) if the device is operated by infrared means.

There is also provided in the body a slot 8 that allows for the rotation of the brake member from its first to its second position. A view of the back, trailing aspect, of the castor is shown in Fig. 4.

When the device is triggered there is engagement between the braking member 5 and wheel 3a. There is in wheel 3a provided a toothed connection means 9 which in the preferred embodiment is in a recess ~~show~~ shown in Fig ~~Figs.~~ 5 and 10. As the wheel will be rotating as part of normal use, when the latch 10 is operated around pivot point 11 as shown in Fig. 6 there will be a connection between tooth and latch which will drive the brake member to rotate from its first to its second and triggered position. The braking member also includes the brake foot 12 which comes between the wheel and the ground in the braking position. There

is provided within the body the slot 8 but this is limited in length to stop the brake member from rotating through too great an angle and become effective. There is shown on the braking member a contact point that will come against the end of the slot to prevent further rotation. There is also provided in the braking member a cut away section 14 which will allow for the provisions of a solenoid or motor 15.

In Fig. 7 there is shown a body of the castor 6 with light collector 7 and solenoid or motor 15. There is provided within a body a sealed chamber 16 which will also contain a programmable integrated chip 17 and a rechargeable support battery 18. the solenoid could then operate from within the sealed area and its required movement can be transmitted through flexible bellow 19. When triggered the solenoid or motor 15 will extend and rotate the latch around pivot point 11 to engage one of the teeth 19 within the wheel 3a.

When the braking system is no longer required, the solenoid or motor 15 will return from its extended position and thereby allow the latch to drop out of engagement. In order to return the braking member to its first position, there is provided a spring 20 which will be overcome while the user is pushing the ~~trolley~~ carriage against the tooth connection, but when there is no pushing it will bring the braking member back to its first position. There is also provided a stop section 21 in slot 8.

If the wheel is used in conjunction with a moving walkway, there will be provided on the base of the body a pad 22 which will grip the grid of the moving walkway in the usual way.

Figure 8 shows wheel 3b which has set into it a number of magnets 23 ~~they that~~ will be arranged with a north pole and a south pole facing inward alternately to provide rotor as part of the generator. The stator 25, as shown in Figure 9 being a view through line 1 with the inclusion of the stator, is coil arrangement 24 of known type. As a small wheel such as a 125mm castor rotates often while being pushed at a reasonable walking pace it is expected that a generator of this type will provide ample power for the device's requirements. Advantageously a generator constructed in this way could have a membrane between the rotor and the stator that will prevent the ingress of dirt from damaging the workings of the stator. Figure 10 shows the recess within wheel 3a and two kind of ~~tyre-tire~~, one conventional rubber or polyurethane 10a and the other suitable for the walkway application 10b.

Page 9, line 28 to page 9, line 11, replace the paragraphs with the following amended paragraphs.

Advantageously, the same system of triggering the device can be used in the store where the device receives a message from a transmitter as it enters an area, for example a supermarket sales floor. The device will receive a number of other messages from additional emitters within the

area to which it may respond to braking. The general purpose of this would be to permit a trolley to leave the stores only if it had passed through a paying point, for example a check out desk. Various timer locations can be programmed in to the chip to allow, for example, a trolley carriage to leave within sixty second as experience has shown that people walk in and out of stores without shopping. In this way the present invention can both prevent ~~trolleys~~ carriages from being removed from the site but also prevent goods from being removed by trolley if they have not passed through the payment area.